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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/747,838	12/29/2003	John Patrick Lemmon	133456-1	6462

6147 7590 06/22/2006

GENERAL ELECTRIC COMPANY
GLOBAL RESEARCH
PATENT DOCKET RM. BLDG. K1-4A59
NISKAYUNA, NY 12309

EXAMINER	
WARTALOWICZ, PAUL A	
ART UNIT	**PAPER NUMBER**
1754	

DATE MAILED: 06/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/747,838	LEMMON ET AL.	
	Examiner	Art Unit	
	Paul A. Wartalowicz	1754	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 December 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-14* is/are pending in the application.

4a) Of the above claim(s) *15-26* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) *1-26* are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *29 December 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *9/30/05,4/19/04*, 8/25/05
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Restriction to one of the following inventions is required under 35 U.S.C. 121:

I. Claims 1-14, drawn to a composition, classified in class 423, subclass 658.2.

II. Claims 15-22, drawn to a process, classified in class 423, subclass 648.1.

III. Claims 23-26, drawn to an apparatus, classified in class 422, subclass 188.

Inventions I and II are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product. See MPEP § 806.05(h). In the instant case the product as claimed can be used in a materially different process of using that product such as hydrocarbon forming/reforming.

Inventions II and III are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another and materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case the process as claimed can be practiced by another and materially different apparatus such as a hydrogen storage device.

During a telephone conversation with Paul DiConzo on June 16, 2006 a provisional election was made with traverse to prosecute the invention of the composition, claims 1-14. Affirmation of this election must be made by applicant in replying to this Office action. Claims 15-26 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Because these inventions are independent or distinct for the reasons given above and have acquired a separate status in the art in view of their different classification, restriction for examination purposes as indicated is proper.

Applicant is advised that the reply to this requirement to be complete must include (i) an election of a species or invention to be examined even though the requirement be traversed (37 CFR 1.143) and (ii) identification of the claims encompassing the elected invention.

The election of an invention or species may be made with or without traverse. To reserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the restriction requirement, the election shall be treated as an election without traverse.

Should applicant traverse on the ground that the inventions or species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the inventions or species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions

unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C.103(a) of the other invention.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Objections

Claims 1, 2, and 6 are objected to because of the following informalities:

The recitation in line 3, claim 1 that states "rhodium, rhodium" is objected to as being duplicative. This objection would be obviated if one of the foregoing is canceled.

The recitation in line 2, claim 2 that states "compositioncomprises" is objected as being improperly spaced. This objection would be obviated if a space was placed such that the recitation would read "composition comprises".

The recitation in line 5, claim 6 that states "rhodium, rhodium" is objected to as being duplicative. This objection would be obviated if one of the foregoing is canceled.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 6, and 12-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Welter et al. (U.S. 4613362).

Welter et al. teaches a hydrogen storage composition (col. 2, lines 11-15) wherein iron or ferriferous alloys particles are catalyststs (col. 2, lines17-21) wherein the iron particles are exposed on the surface of the hydrogen storage material (meets limitation of about 1-100% of the total surface area of the storage composition, col. 2, lines 57-60). As to the limitation of radius of gyration, Welter et al. teaches a substantially similar composition to that of the claimed invention such that the properties of the composition of Welter et al. are substantially similar to that of the claimed invention such that Welter et al. inherently teaches the limitation of particulates have a radius of gyration of 1-200 nanometers.

Claims 6, 7, 8, 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Keith et al. (U.S. 3138560).

Keith et al. teach a composition comprising palladium disposed on a carbon support in a concentration of 0.002 to 30 percent (meets limitation of catalyst

(palladium) covers 1-100% of the total surface area of storage composition (carbon) col. 2, lines 14-16).

Claims 1-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Sawa et al. (U.S. 6030724).

Sawa et al., however, teaches a hydrogen storage alloy (col. 3, lines 8-12) comprising a storage composition of oxides, nitrides, and borides of vanadium, titanium, and zirconium, (col. 5, lines 4-12) and carbon black (col. 6, lines 32-35), and calcium, titanium, chromium, manganese, iron, cobalt, copper, silicon, germanium, rhodium, molybdenum, niobium, zirconium, yttrium, palladium, hafnium, and tungsten (col. 5, lines 4-12) wherein the alloys are a powder of size .1 to 100 μm (meets the limitation wherein the particlulates have a gyration of about 1 to about 200 nanometers, col. 4, lines 14-16) and wherein a binding agent is added to the hydrogen storage alloy in an amount of from 0.1 to 5% by weight to the hydrogen storage powder (meets limitation of the catalyst composition covering a surface area of 1-100%, col. 6, lines 36-40) and wherein carbon black is added to the hydrogen storage composition (col. 6, lines 30-34).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 2-5 and 8-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Welter et al. (U.S. 4613362) in view of Sawa et al. (U.S. 6030724).

Welter et al. teach a hydrogen storage composition as described above in claim 1. Welter et al. fail to teach wherein the storage compostion comprises the claimed compositions.

Sawa et al., however, teaches a hydrogen storage alloy (col. 3, lines 8-12) comprising oxides, nitrides, and borides of vanadium, titanium, and zirconium, (col. 5, lines 4-12) and carbon black (col. 6, lines 32-35) for the purpose of using a well known hydrogen storage composition.

Therefore, it would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to provide a hydrogen storage alloy (col. 3, lines 8-12) comprising oxides, nitrides, and borides of vanadium, titanium, and zirconium, (col. 5, lines 4-12) and carbon black (col. 6, lines 32-35) in Welter et al. in order to use a well known hydrogen storage composition as taught by Sawa et al.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul A. Wartalowicz whose telephone number is (571) 272-5957. The examiner can normally be reached on 8:30-6 M-Th and 8:30-5 on Alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman can be reached on (571) 272-1358. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Paul Wartalowicz
June 16, 2006

COLLEEN P. COOKE
PRIMARY EXAMINER